ENVIRONMENTAL SERVICES ASSISTANCE TEAM

ESAT SITE SAFETY PLAN

Libby Asbestos Site – Operable Unit 7
Troy, Montana

Prepared By:

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ESAT Region 8

Contract Number: EP-W-06-033
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SITE SPECIFIC SAFETY PLAN ACKNOWLEDGMENT FORM

SITE NAME: Libby Asbestos Site – Operable Unit 7
Contract Number: EP-W-06-033
Task Order 02, TDF # MM022

Proposed Dates: Summer 2007

Scheduled Equipment to Mobilize to site: soil grinders, drying ovens, ventilation hoods, HEPA vacuum, collapsible tables, tools and equipment for framing out work zones (either plastic sheeting and PVC piping or wood) .

Proposed ESAT Activities: Sample receiving, drying, splitting, grinding, and shipping.

Site Specific Safety Plan:

Written by John Calanni

_____ _____
Signature Name Date

Reviewed and Approved by Art Tippit, TechLaw Inc. Deputy Health and Safety Officer

_____ _____
Signature Name Date

Reviewed and approved by Donald Goodrich, ESAT ETM

_____ _____
Signature Name Date

Read and understood by personnel accessing the site:

_____ _____
Signature Site Supervisor, John Calanni Name (Print) Date

_____ _____
Signature, Site Safety Officer, Francisco Lapostol Name (Print) Date

_____ _____
Signature, Steven Auer Name (Print) Date

_____ _____
Signature, Deborah Goeldner Name (Print) Date

_____ _____
Signature, John Wieber Name (Print) Date

_____ _____
Signature, Mike Brewer Name (Print) Date

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SITE SAFETY PLAN
LIBBY ASBESTOS SITE – OPERABLE UNIT 7
SOIL PREPARATION FACILITY ACTIVITIES

This Site Safety Plan is based upon information provided to TechLaw, Inc. by the United States Environmental Protection Agency (EPA) Region 8 staff and the existing Health and Safety Plan (HASP) currently in use by CDM Federal Programs Corporation for project activities currently underway at the Libby Asbestos Site. If new information is obtained or identified, this Site Safety Plan will be amended as applicable.

This Site Safety Plan defines and designates Health and Safety requirements and protocols to be followed at the Libby Asbestos Site – Operable Unit 7 during sample receiving, drying, splitting, grinding, and shipping activities. Applicability extends to all TechLaw, Inc. employees who access the site.

1.0 GENERAL INFORMATION

1.1 Site Background

According to historical mining records, approximately 80 percent of the world's vermiculite (used in various building materials and textiles) originated in the Zonolite Mountains near Libby, Montana. In 1881 gold miners discovered vermiculite in the Zonolite Mountains, and mining operations were initiated in 1924 by owner Edward Alley. In 1925 the Great Northern Railroad shipped the first boxcar of "Zonolite" from Libby to an Ohio company that used it to insulate bank vaults, office safes, and filing cabinets. Other firms used the material to make building boards and roofing materials. The vermiculite ore was stripped from the mine and hauled in trucks to a mill, where it was separated into various commercial sizes through a screening system. Some of the ore was shipped untouched. Other material was sent to an expansion plant where it was processed in ovens at temperatures exceeding 2,000 degrees Fahrenheit, causing it to expand to 15 times its original size. In 1939, Zonolite merged with another mining company and became known as the Zonolite Company. In 1963 the company was sold to W.R. Grace and Co. who expanded the operation and increased production. From the 60s through the 80s millions of tons of vermiculite ore was hauled by rail to the W.R. Grace plants and other companies in 30 states and 6 foreign countries. The W.R. Grace Company, which owned the mine for 30 years, closed it in 1990 and sold the property 4 years later. During more than 6 decades of vermiculite mining at Zonolite Mountain asbestos was released into the air.

In response to local concern about asbestos-contaminated vermiculite, the EPA sent an Emergency Response Team to Libby in 1999. The EPA initiated an aggressive sampling approach to evaluate the nature and extent of asbestos contamination in the community, which has included the sampling and inspection of over 3,500 properties. As of 2006, the former vermiculite processing plants and 794 residential and commercial properties have been remediated. EPA estimates an additional 1,200 to 1,400 residential and business properties will need some type of cleanup. Operable Unit 7 of the Libby Asbestos Site, the subject of this health and safety plan, is located in the city of Troy, Montana. Troy is approximately 20 miles to the northwest of Libby.

1.2 Objectives

The purpose of the work outlined in this document is to prepare and process soil samples collected in Troy (Operable Unit 7). After completing of sample preparation and processing, the samples will be sent to an analytical laboratory for analysis. All project work will be conducted in the Sample Preparation Facility located in Troy, Montana. Specific activities of personnel include the following:

- Receiving samples from field teams (directly and archived),
- Drying samples,

- Sieving samples,
- Grinding samples,
- Splitting samples, and
- Shipping samples to the appropriate analytical laboratory.

1.3 Key Site Personnel Responsibilities (For a complete listing of personnel and associated functions please see the *Site Specific Safety Plan Acknowledgement Form* located at the beginning of this document). Note that in the event a listed individual is not able to attend a sampling event(s), a replacement will be named prior to field activities.

Site Supervisor

John Calanni will serve as Site Supervisor. His responsibilities include, but are not limited to:

- Being knowledgeable of federal, state, local and company requirements applicable to their work assignments;
- Evaluating the potential hazards of projects and appropriately managing for control of these hazards;
- Establishing, through personal example, the desired safety environment for the performance of duties;
- Ensuring that all employees under his direction are properly qualified to complete their work assignments;
- Ensuring that all ESAT employees under his supervision or control meet the eligibility requirements of the ESAT Health and Safety Plan before they are allowed to enter a hazardous waste site or are assigned to a specific laboratory task that may result in workplace exposure to chemical hazards;
- Verifying that appropriate safety equipment and protective devices are provided for each job and are continuously in proper working order (this includes drinking water and other fluid replacement beverages);
- Identifying special training requirements and ensuring compliance as appropriate;
- Identifying and correcting health and safety deficiencies within his control and promptly notifying ESAT management or health and safety staff of deficiencies outside their control; and
- Monitoring the condition of workers on site to assess need for work hour limitations.

Site Safety Officer

Fransisco Lapostol will serve as the Site Safety Officer. His responsibilities include, but are not limited to:

- Conducting daily site safety meetings;
- Enforcing established air monitoring requirements, use of appropriate levels of protection, and procedures to minimize any hazards to ESAT personnel and community residents;
- Ensuring the preparation, approval, and enforcement of site-specific health and safety plans for assigned ESAT tasks;
- Providing health and safety support for assigned ESAT tasks;
- Assisting in the implementation of health and safety responsibilities of ESAT management staff;
- Establishing, through personal example, the desired safety environment for the performance of duties;
- Ensuring that driving conditions are acceptable for movement of all vehicles;
- Continually evaluating compliance with government health and safety regulations;
- Identifying special training requirements and ensuring compliance as appropriate;
- Recommending changes to the ESAT health and safety plan as needed based on newly issued or revised regulations, experience, and loss-control practices;
- Identifying and correcting health and safety deficiencies within his control and notifying ESAT management or health and safety staff of deficiencies outside his control; and
- Recommending changes in the work schedule of site workers in order to avoid accidents due to fatigue

and environmental stress.

2.0 EMERGENCY PROCEDURES/CONTINGENCY PLAN

In the event of an emergency, Site Personnel should stop work and retreat to a designated area to determine appropriate response and establish site security and control. The designated area of retreat shall be determined by the Site Safety Officer at the site safety briefing prior to initiation of work.

In the event of a medical emergency, personnel are highly discouraged from transporting personnel in private vehicles. Emergency medical services should be contacted, call 911, in all but the most minor medical conditions. In order to facilitate the provision of emergency medical services, the hospital site location information will be available in sampling vehicles for reference and guidance in the event of an emergency.

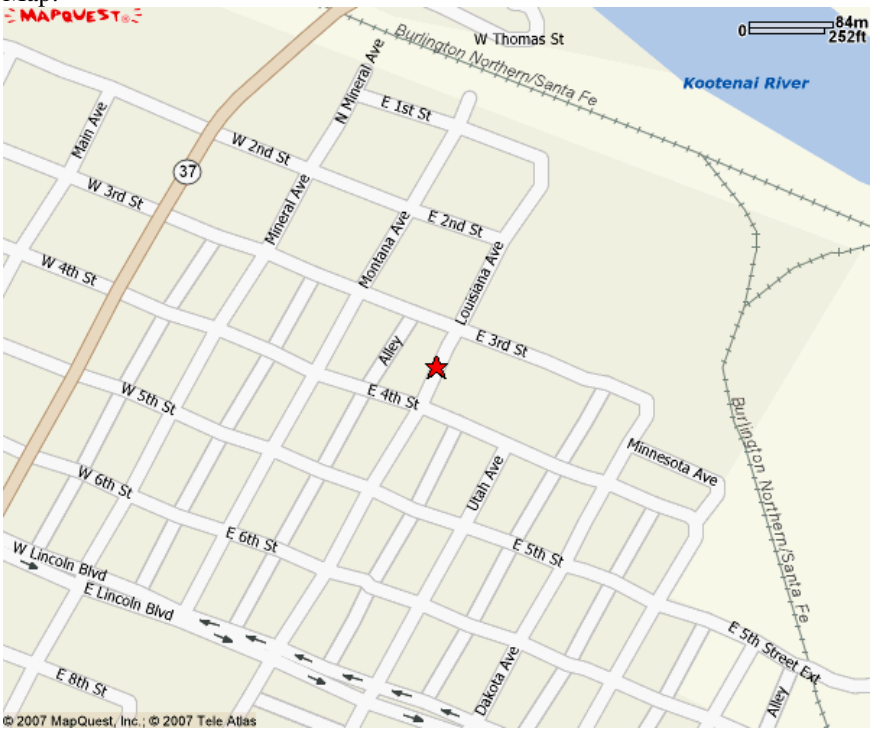
If a team member is taken to the clinic or hospital, their Medical data Sheet should be taken for use by the treating physician. Each team member should complete his/her Medical Data Sheet, place it in a sealed envelope with "Medical Data Form" and their name on it, and take it to the field. The form should be kept in a location known to the other team members for use if needed.

Driving Directions are included to St. John's Lutheran Hospital, located at 350 Louisiana Avenue, Libby, Montana, 59923. The phone number for the medical center is (406) 293-0115.

Directions from Old Mill Road:

1. Go south on Old Mill Road (becomes Mill Road).
2. Merge left onto St. Regis Haul Road/Yaak Avenue.
3. Turn left onto Missoula Avenue/US-2 (follow US 2 for 18 miles).
4. Turn left onto Louisiana Avenue and continue to hospital.

Map:



Reporting of Accidents:

An **employee** who suffers a work injury or becomes involved in an accident, regardless of how minor, which may have resulted in an injury to himself or others, is required to report the accident and/or work injury as soon as possible to his supervisor, who will then contact ESAT Team Manager Donald Goodrich. Even if the accident information is incomplete, **notify management as soon as possible.** After accident information is received by management, the ESAT ESHC John Calanni must be notified immediately.

In case of an accident or injury, Donald Goodrich will contact Kathy Bills of TechLaw Human Resources. Upon notification of an accident, Kathy Bills will contact the TechLaw Inc. workers compensation insurance carrier and complete the necessary forms such as an OSHA 301 form, even if the information is incomplete.

The employee must advise the attending medical personnel that their injury is work-related so the medical facility can submit the appropriate information to TechLaw Human Resources (HR). TechLaw HR will initiate the claims process with the TechLaw workers compensation insurance carrier and any required notifications to the appropriate state.

During nights, weekends, or holidays, contact ESAT Team Manager (TM) Donald Goodrich. If ESAT TM is unavailable, contact ESAT ESHC. Either the TM or ESHC can contact the TechLaw workers compensation insurance carrier and initiate the claims process with Travelers, who will provide for the employee a claim number and the claim handler's name. The employee will use this claim number for any related billing (hospital, medical, etc.). The claim number, claim handler's name, and all related information should be forwarded to Kathy Bills as soon as possible.

After initial notifications and verbal reporting, the employee should complete any accident reports and related forms.

Additional information can be found in the ESAT, Region 8 Health and Safety Plan, Section 6.8, Reporting of Accidents or Incidents.

Emergency numbers are as follows:

Police, Fire or Medical Aid	911
St. John's Lutheran Hospital	(406) 293-0115
Libby Police Department	(406) 293-3343
Bull Lake Volunteer Fire Department	(406) 295-9711
ESAT Team Manager: Donald Goodrich	Office: (303) 312-7726 Home: (303) 271-0903
TechLaw Inc. - Corporate Health and Safety	
Manager: Phil Williams	(706)-542-0606
Deputy Officer: Art Tippit	(214) 572-0074 Cell: (405) 249-1706
- Dr. Mark Strauss, Corporate Physician	Cell: (850) 393-3613
ESAT - ESHC – John Calanni, TechLaw Inc.	Office: (303) 312-7749 Home: (303) 987-3610

(EPA) National Spill Response Center (Spills>RQ) 800-424-8802

3.0 SAFETY AND HEALTH HAZARD ANALYSIS

The following sections identify the chemical and physical hazards expected on the site associated with operating the soil preparation laboratory.

3.1 Chemical Hazards of Concern

Known Contaminants	Highest Observed Concentration	PEL/TLV	IDLH	Exposure Pathwawy	Symptoms/Effects of Exposure
Asbestos****	5 – 7 percent in waste piles	0.1 ft/cc* 0.01 ft/cc**	NA	Inhalation	Asbestosis (chronic exposure) dyspnea (breating difficulty), interstitial fibrosis, restricted pulmonary function, irritated eyes (per NIOSH pocket guide)
Asbestos****	4.481 f/cc***	0.2 ft/cc* 0.01 ft/cc**	NA	Inhalation	Asbestosis (chronic exposure) dyspnea (breating difficulty), interstitial fibrosis, restricted pulmonary function, irritated eyes (per NIOSH pocket guide)

ACGIH – American Conference of Government Industrial Hygenists
f/cc – fibers per cubic centimeter
IDLH – Immediately Dangerous to Life and Health (NIOSH standard enforced by law)
N/A – Not applicable
NIOSH – National Institute for Occupational Safety and Health
OSHA – Occupational Safety and Health Administration
PEL – Permissible Exposure Limit (OSHA-established workplace standards enforced by law)
TLV – Threshold Limit Values (recommended by ACGIH)
* - personal air monitoring by Phase Contrast Microscopy
** - ambient/perimeter monitoring by Phase Contrast Microscopy
*** - concentration derived from a 30 minute excursion - cutting hole in ceiling
**** - Concentrations represent worst case scenarios completed in Libby, Montana, and are not indicative of potential levels of airborne fibers anticipated in the soil preparation laboratory in Troy, Montana. A baseline exposure assessment will be completed at the initiation of soil preparation activities.

3.2 Physical Hazards of Concern

The main physical hazards of concern include the following:

- slips, trips, and falls;
- lifting/carrying;
- grinder operation;
- oven operation; and
- noise;

In order to address these hazards, the following will be observed:

- team members will be made of aware of the identified physical hazards at a daily safety briefing, which will cover operating procedures for grinder and oven use, and proper lifting and carrying techniques
- team members will be aware of potential slips, trips, and falls hazards and will walk/work in a careful

manner
- team will take breaks as needed and drink plenty of fluids

3.3 Biological Hazards of Concern

During sampling activities team members may encounter the following biological hazards:

- Insect bites and stings
- Snakes
- Wildlife

A first aid kit will be kept at the Sample Preparation Facility to treat minor insect bites, scrapes, and cuts. In the event more serious injuries are encountered due to biological hazards, 911 will be contacted. Sample team members will be instructed to maintain awareness of their surroundings at all times and not to approach wildlife. Team members will be aware of potential biological hazards associated with the work, and wear insect repellant as needed. If any team members have sensitivities to insect stings, ect., the team should be aware of the sensitivity and location of any personal medication brought to the field; the sensitivity or allergy should be noted on the Medical Data Form as well.

4.0 TRAINING

All on-site personnel will be current in meeting the OSHA training requirements as specified in 29 CFR 1910.120. The Site Supervisor and Safety Officer have also received the additional supervisor training. In addition, all personnel will:

- review the Site Safety Plan prior to beginning field work;
- attend the daily site-specific safety briefing prior to beginning field activities;
- attend all other safety meetings;
- maintain copies of all training records at site;
- attend training in applicable work practices and procedures; and
- attend training in Personal Protective Equipment needs and use

5.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Due to the nature of sample preparation activities being performed, as well as the unknown level of contaminants (specifically asbestos) in samples, modified level D and level C PPE will be required as outlined below:

Activity	Type	Primary	Contingency	Hazard Risk Evaluation*
Receiving Samples	Non-intrusive	Level D-Modified	Level C	Hazard Risk: Low Date: 2003
Drying Samples	Intrusive	Level C	NA	Hazard Risk: Low Date: 2003
Sieving Samples	Intrusive	Level C	NA	Hazard Risk: Low Date: 2003
Grinding Samples	Intrusive	Level C	NA	Hazard Risk: Low Date: 2003
Splitting Samples	Intrusive	Level C	NA	Hazard Risk: Low Date: 2003
Shipping/Packaging Samples	Non-intrusive	Level D-Modified	Level C	Hazard Risk: Low Date: 2003

*Hazard risk evaluation is based on information provided by CDM Federal Programs Corporation based on sample preparation operations

underway in support of the Libby, Montana Asbestos Site.

Specific PPE requirements will include the following:

Activity By Task	Protection					
	Respiratory	Head and Eye	Clothing	Gloves	Boots	Other
Receiving Samples	Not Needed	Safety Glasses	None	Nitrile or surgical/latex	None	Observe and note broken sample containers
Receiving Samples (Contingency)	APR: Full Face Cartridge: P100	None	Tyvek Coverall	Nitrile or surgical/latex	None	Observe and note broken sample containers
Drying Samples	APR: Full Face Cartridge: P100	None	Tyvek Coverall	Nitrile or surgical/latex	None	This task will occur in a negative pressure hood with HEPA filteration
Sieving Samples	APR: Full Face Cartridge: P100	None	Tyvek Coverall	Nitrile or surgical/latex	None	This task will occur in a negative pressure hood with HEPA filteration
Grinding Samples	APR: Full Face Cartridge: P100	None	Tyvek Coverall	Nitrile or surgical/latex	None	This task will occur in a negative pressure hood with HEPA filteration
Splitting Samples	APR: Full Face Cartridge: P100	None	Tyvek Coverall	Nitrile or surgical/latex	None	This task will occur in a negative pressure hood with HEPA filteration
Shipping/Packaging Samples	Not Needed	Safety Glasses	None	Nitrile or surgical/latex	None	Observe and note broken sample containers
Shipping/Packaging Samples (Contingency)	APR: Full Face Cartridge: P100	None	Tyvek Coverall	Nitrile or surgical/latex	None	Observe and note broken sample containers

6.0 ENGINEERING CONTROLS

The following tasks will be performed in a negative pressure hood(s) fitted with HEPA filteration:

- Drying samples,
- Sieving samples,
- Grinding samples, and
- Splitting samples

Each of these activities will take place in the established work zone (as discussed in Section 9.0).

7.0 MEDICAL MONITORING PROGRAM

All TechLaw, Inc. ESAT personnel involved in activities which could result in chemical exposure will be current participants in the TechLaw, Inc. Medical Monitoring Program, which meets the requirements of 29 CFR 1910.120. Team members will be current in meeting those medical surveillance requirements and will be permitted to

participate in this type of field activity according to their medical clearance.

8.0 AIR MONITORING PROGRAM

Due to the potential of emissions of airborne fibers, air monitoring will be conducted prior to work initiation (background), and during sample preparation activities. The following air monitoring activities will take place:

Instrumentation	Task	Response Levels	Comments (Including Schedule of Use)
Air Sampling: - Low volume sample pump - High volume sample pump - 25 mm mixed cellulose ester (MCE) filter cassettes - Inert tubing -Extension cords -Rotometer	All	NA	Equipment will be used during a baseline evaluation period, negative exposure assessment period, as well as periodic monitoring in the work zone and support zone.
Dust Sampling: - Low volume sample pump - 25 mm MCE filter cassettes - Inert tubing - Rotometer	All	NA	Equipment will be used during a baseline evaluation period, negative exposure assessment period, as well as periodic monitoring in the work zone and support zone.
Respirable Dust Monitor: Type: Real-time Area Dust Monitor	All	A Mini-Ram will be used during sample processing activities to monitor particulate concentrations. An audible alarm will be set at 3 mg/m^3 (respirable particles) and 10 mg/m^3 (total particles)	If visibly dusty conditions persist, work will stop and work processes will be re-evaluated and modified. Monitoring will be performed during the negative exposure assessment period.
Respirable Dust Monitor: Type: Fibrous Aerosol Monitor	All	A fibrous aerosol monitor will be used during sample processing activities to monitor fibrous aerosols. An audible alarm will sound if fiberr concentrations exceed 1f/cc (30-minute short-term exposure limit) or 0.1 f/cc (time weighted average)	If visibly dusty conditions persist, or audible alarms on the fibrous aerosol monitor persist, work will stop and work processes will be re-evaluated and modified. Monitoring will be performed during the negative exposure assessment period.
Anemometer	All	Anemometer readings will be used to determine function as well as filter exchange needs based on manufacturer's recommendations.	An anemometer will be used to monitor flow velocities of the negative flow HEPA filtered hoods.

9.0 SITE CONTROL MEASURES

9.1 Work Zones

Three zones will be established in the Sample Preparation Facility: Support Zone (WZ), Contamination Reduction Zone (CRZ), and the Work Zone (WZ). Sample receiving and packaging for shipment will occur in the SZ, and will require modified level D PPE as outlined in Section 5.0. Sample drying, sieving, grinding, and splitting will take place in the WZ under negative pressure HEPA filtered hoods and will require level C PPE

as outlined in Section 5.0. WZ required PPE donning and doffing will take place in the CRZ.

9.2 Communications and Emergency Alarm System

Due to the small project team size and the unlikelihood of conditions developing which would require immediate evacuation, verbal communications will be used among team members. A mobile telephone and/or two-way radio will be available, and all team members shall be informed of the available communication device location at the site safety meeting prior to commencing work. Personnel will confirm that dialing 911 on the mobile telephone will reach local emergency medical services prior to on-site operations.

9.3 The Buddy System

The buddy system will be used at all times.

10.0 DECONTAMINATION

Decontamination of sample preparation equipment and work zones will be performed in accordance with the soil preparation plan for this project. Personalized decontamination will include washing hands prior to hand to mouth contact and removal of protective clothing. Protective clothing will be removed in the following order:

- Remove safety glasses (if used)
- Remove Tyvek coveralls (if used)
- Remove respirator (if used)
- Remove gloves
- Thoroughly wash hands and exposed skin surfaces prior to eating and drinking.

All disposable personal protective gear will be double bagged and disposed of as municipal waste. Any wash and rinse waters used for personal cleaning will be disposed of down the sink drain.

11.0 CONFINED SPACE

Confined space entry is not a requirement of this project.

12.0 SPILL CONTAINMENT

There is minimal potential for any spill of hazardous chemicals at this site due to the nature of the work. However, should a spill occur, personnel should immediately contain the spill with any available absorbent material, neutralize the spilled material if appropriate, and subsequently dispose of the spilled material appropriately.

13.0 HAZARD COMMUNICATION

Outside of the contaminant-based hazards identified in this document, no additional hazardous chemicals are anticipated to be used during sample preparation activities. In the event hazardous chemicals are incorporated into work activities, a Material Data Safety Sheet will be retained on file at the sample preparation facility, and this health and safety plan will be updated to include their use. In addition, team members will be informed of the proper chemical handling, safety, use, and disposal procedures of any hazardous chemicals used at the facility.

14.0 STANDARD ON-SITE SAFETY PRACTICES

All participants will conduct their work in accordance with this safety plan and the Soil Preparation Workplan for the Libby Asbestos Site, Operable Unit 7 and any other applicable rules. Personnel will be directed to leave the site if they fail to observe the safety requirements or in any way create a safety hazard. Standard personnel precautions

include the following:

- Eating, drinking, chewing gum or tobacco, smoking or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any contaminated area.

- Care must be taken when wearing personal protective equipment because of the increased potential for fatigue and/or heat stress related injuries due to dehydration etc.

- Contact with contaminated or suspected contaminated surfaces should be avoided. Whenever possible do not walk through puddles, mud and discolored surfaces; kneel on the ground; lean, sit or place equipment on drums, containers, vehicles, or on the ground.

- Medicine and alcohol can potentiate the effects of exposure to toxic chemicals. Prescribed drugs should not be taken by personnel working on site where the potential of absorption, inhalation or ingestion of toxic substances exists unless specifically approved by a qualified physician. Alcoholic beverage intake should be minimized or avoided over the duration of the project.

- On-site personnel will be required to remove contaminated clothing and thoroughly wash hands and face prior to smoking, handling of any food or drink, using of any restroom facilities or leaving the site.

- Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after protective garments have been removed.

- Slips, trips, and falls will be a constant hazard based on the nature of the work conducted in the sample preparation facility.